

CLAIMS

1. Laminate comprising a skin plate made from steel and a shaped layer, which skin plate has an outwardly facing side and a side which faces towards the shaped layer, and which shaped layer has a side facing towards the skin plate and an outwardly facing side, in which the shaped layer substantially consists of a shaped steel plate, which shaped layer is joined to the skin plate and forms passages and/or cavities together with the skin plate, which passages and/or cavities are optionally connected to one another, and in which a polymer material creates the bonding between the skin plate and the shaped layer.
2. Laminate according to Claim 1, in which that side of the skin plate which faces towards the shaped layer and/or that side of the shaped layer which faces towards the skin plate is/are provided with a layer of polymer material.
3. Laminate according to Claim 1 or 2, in which the outwardly facing side of the skin plate and the outwardly facing side of the shaped layer are provided with a layer of polymer material.
4. Laminate according to one of the preceding claims, in which a second skin plate is joined to the shaped layer in order to form a sandwich material.
5. Laminate according to Claim 4, in which the shaped layer likewise forms passages and/or cavities with the second skin plate, which passages and/or cavities are optionally connected to one another.
6. Laminate according to Claim 4 or 5, in which both sides of the steel shaped layer and/or the inwardly facing sides of the skin plates are provided with a layer of polymer material.
7. Laminate according to one of Claims 4, 5 or 6, in which the outwardly facing sides of the skin plates are provided with a layer of polymer material.
8. Laminate according to one of the preceding claims, in which the skin plate or skin plates are between 0.05 and 0.6 mm thick, preferably between 0.05 and 0.3 mm thick.

9. Laminate according to one of the preceding claims, in which the material of the shaped layer is between 0.05 and 0.6 mm thick.
- 5 10. Laminate according to one of the preceding claims, in which the layer of polymer material on the steel skin plate or plates and/or the steel shaped layer is between 0.015 mm and 0.7 mm thick, preferably between 0.03 mm and 0.2 mm thick.
- 10 11. Laminate according to one of the preceding claims, in which the polymer material substantially comprises polypropylene (PP) or polyethylene terephthalate (PET).
- 15 12. Laminate according to one of the preceding claims, in which passages in the laminate are designed in such a manner that they can be used as one or more lines for transporting a fluid.
13. Laminate according to one of the preceding claims, in which passages and/or cavities in the laminate are filled with an energy-absorbing material.
- 20 14. Laminate according to one of the preceding claims, in which cavities in the laminate are closed and are under a pressure which is lower than atmospheric pressure.
- 25 15. Laminate according to one of the preceding claims, in which the laminate is between 1 mm and 100 mm thick, preferably between 2 mm and 40 mm thick.
- 30 16. Method for producing laminate as described in one of the preceding claims, characterized in that the skin plate or plates and the shaped layer are brought into contact with one another, and in that the bonding between the skin plate or plates and the shaped layer is produced by heating the polymer material.
- 35 17. Method according to claim 16, in which the heating is carried out with the aid of induction heating or with the aid of radiant heat.
18. Method according to claim 16 or 17, in which the laminate is produced substantially continuously.

19. Method according to claim 18, in which the steel shaped layer is shaped substantially continuously before being brought into contact with and bonded to the skin plate or plates.